

## Claims

1. Downhill ski having a ski body (1), which has a running surface on its under side and, on its upper side facing away from the running surface,  
5 comprises at least one upper chord element (10) which extends in the longitudinal direction of the ski body, absorbs tensile and compressive forces, and is supported on the ski body by its ends, wherein on the upper side of the ski body (1) there is arranged a support structure (6), on which the upper chord element (10) is mounted and which is formed from an elongate flat  
10 component (7) that is bent at intervals in alternating directions in each case at an angle to the running surface (2), about substantially parallel axes, which extend transversely to the longitudinal direction of the ski.
2. Downhill ski according to claim 1, characterized in that the support  
15 structure (6) has an undulating form.
3. Downhill ski according to any one of the preceding claims, characterized in that the support structure (6) consists of a fiber/plastics material composite.  
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4. Downhill ski according to any one of the preceding claims, characterized in that the support structure (6) consists of a metal sheet.
5. Downhill ski according to any one of the preceding claims,  
25 characterized in that the wall thickness of the component (7) of the support structure (6) varies.
6. Downhill ski according to any one of the preceding claims, characterized in that the overall height of the support structure (6) decreases  
30 from the centre of the ski toward the ends of the ski (3, 5).

7. Downhill ski according to any one of the preceding claims, characterized in that the support structure (6) is formed from a plurality of components (7) lying side by side.
- 5 8. Downhill ski according to any one of the preceding claims, characterized in that the angle of inclination of the portions of the support structure (6) which are inclined in relation to the running surface (2) changes from the centre of the ski toward the ends of the ski.
- 10 9. Downhill ski according to any one of the preceding claims, characterized in that the upper chord element (10) comprises one or more rods or tubes made of high-strength material.
- 15 10. Downhill ski according to any one of the preceding claims, characterized in that the support structure (6) comprises openings (8) or recesses, in which the upper chord element (10) is arranged, at a distance from the ski body (1).
- 20 11. Downhill ski according to claim 10, characterized in that the upper chord element (10) is supported in a sliding manner in the openings (8) or recesses of the support structure (6).
- 25 12. Downhill ski according to any one of the preceding claims, characterized in that the support structure (6) is connected to the ski body (1) by adhesive or cohesive means and/or by mechanical means.
13. Downhill ski according to any one of the preceding claims, characterized in that the support structure (6) is at least partly covered on its upper side by a thin-walled plate-shaped element (11).

14. Downhill ski according to any one of the preceding claims, characterized in that a box-shaped casing (14), which encloses the support structure (6) and the upper chord element (10), is attached to the ski body (1).
- 5 15. Downhill ski according to any one of the preceding claims, characterized in that the ski body (1) is configured as a sandwich construction.